



INTRINSIC SAFE REPEATER RELAY WIRING

NOTES

- Contacts are shown in Normal Operating State (Energized, with kids Power on).
- Differential Pressure Switch (DPS): Adjustable Set Point of 0.3 to 1.0 I.C. Set Point 7.0 I.C. When the DP falls below 0.3 inches, DPS will shut down the Process Gas Flow from each of the four Gas Cabinets.
- Initial Safe Supply Rating: 25W, 250V, 120Hz, 1-10W. Mount Rating is Automatic Shut-Down Control Cabinet. Separate Three Pole Relay to DPS from other Cabinet Rating by 2 inches, minimum.
- Include redressing Fins, Lights & Outlets on Heads.

ALARM SYSTEM DESCRIPTION

- Tent Switch on the Automatic Shut-Down Relay Cabinet:**
 - This is a key operated switch. When it is opened, it actuates both the level 1 (HSC) and level 2 (HSC) alarm relays. When this switch is closed, the entire system can then be placed back in service.
- On Activation of Level 1 relay (HSC1L1) from the MSA:**
 - Level annunciation in rooms 230 & 235 for 4 hours in each room & a beeper in the MSA & Shaper RAD 02.
 - Local annunciation in offices (rooms 234 & 236) via horns.
- On Activation of Level 2 relay (HSC2L1) from the MSA:**
 - Shut down of the gas cabinet via 230 relay. Local annunciation in rooms 230, via a beeper on each of the 3 leak gas cabinets and a horn on the hydrogen cabinet.
 - On the MSA, the level 2 alarm LED lights will indicate RED if the single point or points where leak gas is being detected.
 - Local annunciation outside coverage of rooms 230 & 235 via flashing alarm.
 - Action of double contact "low sweep" horns that are mounted above coverage of rooms 230 & 235.
 - Report to the Fire House on a level 2 leak gas release alarm via HSC-2 Pyrolytic Fire Alarm Control Panel, Zone 2327, Transmitter 235.
- On Activation of Master High level alarm relay (HSC HL) of the Shaper RAD 02:**
 - Shut down of the gas cabinet via 230 relay. Local annunciation in rooms 230, via a beeper on each of the 3 leak gas cabinets and a horn on the hydrogen cabinet.
 - Report to the Fire House on a high level hydrogen alarm via HSC-2 Pyrolytic Fire Alarm Control Panel, Zone 2305, Transmitter 235.
- On Activation of any of the MSA, Loss of monitoring, Loss of coverage, or Power Loss relays:**
 - Local annunciation in room 230 via Shaker Alert mounted on MSA cabinet.
 - Report to the Fire House on an expandable alarm via HSC-2 Pyrolytic Fire Alarm Control Panel, Zone 2310, Transmitter 235.
- On Activation of either of the two Hatch-Glass Relays:**
 - Local annunciation in room 230 via Shaker Alert mounted on MSA cabinet.
- On Activation of Emergency Cutoff Relays, located in the H2O Control Cabinet & by the doorway inside Room 230:**
 - Shut down VAC 230, VAC 235, Dry Lander Beach and Wet Lander Beach in Room 230.
 - Shut down HPA Filters and Liberty Fan.
 - Reset Pressure At Panel 24040A, Jam Circuit Breaker No. 23 break on. Panel is in corridor to the left of entrance to Room 230. At Panel 24040AA, Jam Circuit Breaker No. 13 break on. Panel is in Room 230.

L1H2	Normal Open (Detected Staff State)
HSC	Normal Closed (Detected Staff State)
HSC-1	Normal Open
HSC-2	Normal Open
HSC-3	Normal Open
DPS	Differential Pressure Switch

REFERENCE DWG.:

4B02E0333 TOXIC GAS ALARM & MONITORING
CONTROL WIRING DIAGRAMS
SHEET 1

BLDG. 2 EPITAXIAL TECHNIQUES LAB SUITE
TOXIC GAS ALARM & MONITORING
CONTROL WIRING DIAGRAMS
SHEET 1
UNIVERSITY OF CALIFORNIA LAWRENCE BERKELEY LABORATORY
FACILITIES DEPARTMENT

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